An Overview of the BC Floriculture Industry

Revised October 2003

The floriculture industry in BC is one of the most successful sectors of the horticultural industry. It is highly dynamic and competitive on a worldwide basis. There are no marketing boards, set prices, or quotas to protect local growers against domestic or world trade. Despite strong competition from overseas for the cut flower market, the industry continues to expand to meet the growing consumer demand for fresh cut flowers, potted flowering plants, and bedding plants.

BC floriculture production is technology and capital intensive. In order to compete against countries around the world, it has become essential for BC growers to quickly adopt new technology and the latest flower and plant varieties. The average sized greenhouse is a hectare in size and may cost between $200 to $400 per square meter to build or about $3.5 million in total capital expenditure. Even with state-of-the-art production systems, new operations can be obsolete within five years.

Systems optimization is central to greenhouses of this size. Computer systems are used to monitor and regulate the growing environment to ensure high quality product, rolling tables increase useable production area, supplemental lighting helps to offset our low winter light levels, and mechanization reduces labour costs. Re-using irrigation water is becoming a common practice in many greenhouses. It involves the collection, possible sterilization, and computer monitoring of the return nutrient solution used in plant nutrition. Growers look to re-using irrigation water as a method to reduce possible environmental impacts of greenhouse run-off and as a way to reduce fertilizer costs.

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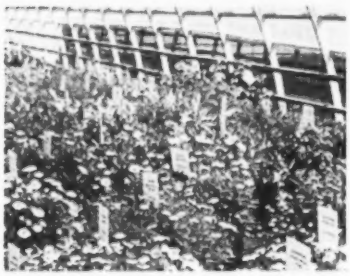
Structure of the Industry



World Floriculture Trade

One of the characteristics of the floriculture industry is its global competitiveness. BC cut flower growers not only compete with the rest of Canada, but with the rest of the world as well. Fast, efficient transportation systems tie together floricultural production on a worldwide basis. Over-production or changes in production in one country can affect markets in other countries. Countries with warmer climates and lower labour costs routinely sell their product to other countries with higher disposable incomes and production costs. A cash-and-carry floral bouquet in your local supermarket could be made of miniature spray carnations from Israel, spray chrysanthemums from Colombia, boxwood from Oregon, and statice from California. However, floriculture trade is bi-directional; BC grown product is shipped across North America and into Europe and the Far East.

Climate and low wages have made some South and Central American countries important producers of floriculture crops. Even when transportation costs are included, the lower production costs of these countries have displaced domestic production of cut carnations, roses, and chrysanthemums in North America and Europe. In fact, Colombia is the second largest cut flower exporter after the Netherlands. Flowers rank forth behind petroleum, coffee, and bananas in export earnings. In the United States and Canada, growers are moving away from traditional flowers such as carnations and chrysanthemums to different specialty cut flowers such as gerbera, lizianthus, snapdragons, and alstroemeria that are usually more difficult to grow and to ship.

World wide trade in floriculture products was estimated at over US$7.9 billion in 2001. Cut flowers account for 50% of sales, plants were 41%,and cut foliage accounted for 9%. Seven countries export 73% of the value of the world's floriculture crops: the Netherlands, Columbia, Italy, Belgium, Denmark, the United States, and Ecuador. The Netherlands continues to dominate the world floricultural industry; it is becoming the epicentre for world flower trading. It was estimated that in 2000 almost 50% of exported floriculture products came from the Netherlands, this figure includes crops that are grown domestically and crops that are imported, brokered, and then resold. Columbia was the second largest exporter at 7.5%, Italy, Belgium, Denmark, the United States, Ecuador, and Germany followed with approximately 3% each of exported products. Kenya, Costa Rica, Israel and Spain produced about 2% each. Major markets are Germany, the United States, Britain, France and the Netherlands. These five countries account for almost 70% of all imports of floriculture products.

The Flower Council of Holland estimated that in 2002, the Netherlands had over 8500 hectares in floriculture crops, including cut flowers, potted plants, propagation material, and bulbs, with a farm gate value of $5.4 billion. Most floricultural production is sold through one of the many floral auctions located throughout the country. In addition to domestic production, cut flowers arrive by the planeload from around the world and are then re-sold to other countries.

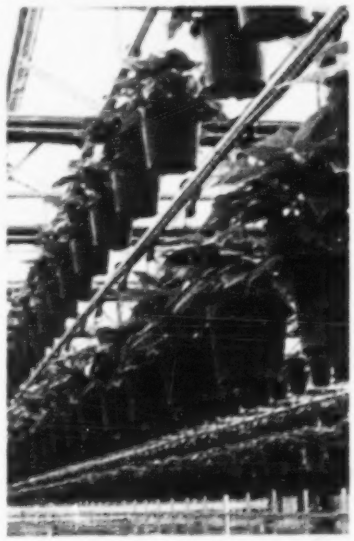
The United States is an important trading partner for Canada. The United States Department of Agriculture estimated that in 2002, there were 8,463 hectares in floriculture production with a wholesale value of over US$4.88 billion. California was the leading state with wholesale value of crops at US$962 million. Florida was the next largest with sales of US$877 million. These two states account for 38% of the total. The five largest producing states, California, Florida, Texas, Michigan, and Ohio, had combined sales of $2.62 billion or 54% of the total.

Table 1. United States Floriculture Sales 2002*

Product Type	Total Sales (million US $)
Bedding plants	2,280
Potted flowering plants	822
Potted foliage plants	663
Cut Flowers	410
Cut Foliage	111

** Source: USDA NASS Floriculture Crops, 2002 Summary*

Table 1 looks at the sales broken down on a crop basis. Bedding plants continue to dominate floriculture sales in the United States. In 2002 bedding plant sales were US$2.28 billion. It represented close to 50% of floriculture sales. Potted geraniums were the largest single bedding plant crop with sales of US$150 million. Impatiens flats were the second largest with sales of US$112 million. In potted flowering plants, poinsettias had sales of US$247 million or 30% of total sales. California was the largest cut flower grower with sales of US$279 million or 68% of the nation's total. The top three cut flowers grown were lilies valued at US$57.7 million, roses at US$56.2 million, and tulips at US$28.3 million. Florida was the largest producer of foliage, accounting for 69% of potted foliage plants and 78% of cut cultivated foliage.

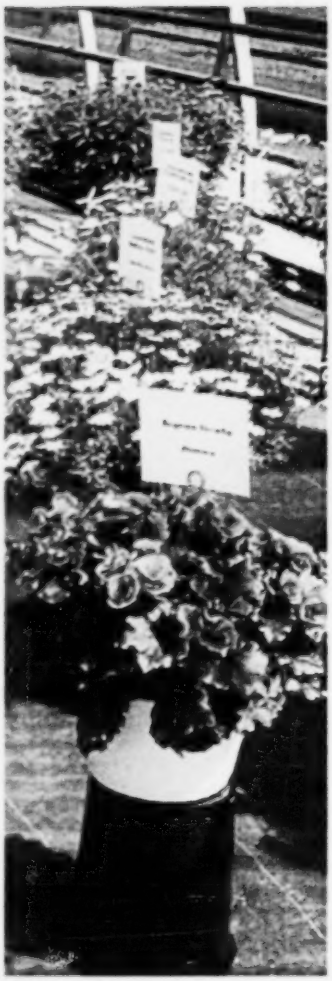


Canada on the World Market

Exports

Canada experienced a positive net balance of trade in floriculture and nursery products for the seventh consecutive year in 2002, reaching a record $165.3 million. Statistics Canada estimated Canadian floriculture and nursery exports in 2002 were $524.3 million, up 80% from 1997. Nearly two-thirds of theses sales were in floriculture crops, mainly potted plants, cut flowers and greens. According to Industry Canada, the main export market for floriculture products is the United States, it generally purchases 89% of Canada's total floriculture exports. Canada supplies about 24% of the floriculture and nursery product imported into the United States. The Netherlands was the next largest Canadian floriculture export market, purchasing 7% of total exports, followed by Germany at 2%.

Ontario is responsible for about 63% of export sales, BC ranks second with 22% and New Brunswick third with 11%. Mechanization, crop diversity, and an emphasis on quality enable the two ornamental industries to expand their export markets.



Imports

In 2002 Statistics Canada estimated imports of floriculture and nursery products to be $359 million, mainly in cut flowers and live plants, including cuttings. The largest suppliers were the United States, the Netherlands, Columbia, Ecuador and Mexico. The United States supplied 50% of all floriculture and nursery products imported into Canada. Cut flowers from South America made up 25% of the total imports and the Netherlands supplied 22%, mainly in bulbs.

Floriculture across Canada

Across Canada, floriculture has enjoyed a steady growth rate over the years. Statistics Canada estimates the farm-gate sales of ornamental plants in 2002, at over $1.4 billion. Table 2 shows the breakdown of production on a provincial basis. Ontario accounts for over half of the industry with sales of $745 million. Most of Ontario's industry is located in the Niagara peninsula where growers are within one day's delivery time to over 100 million American consumers. BC is the second largest centre with sales of $312 million and Quebec is the third largest centre with sales of $147 million. Over 1,886 hectares of greenhouses were used in the production of ornamentals and vegetables. Ontario has 958 hectares, over half of the greenhouse acreage in Canada. British Columbia has 24% of the total greenhouse acreage with 461 hectares of greenhouses.

Table 2. The Canadian Greenhouse Industry, 2002*

Province	Sales ($ million)	Size + (hectares, plastic and glass)
Newfoundland	8.7	6
Price Edward Island	2.8	3
Nova Scotia	29.3	29
New Brunswick	41.1	18
Quebec	147.3	255
Ontario	745.1	958
Manitoba	27.4	25
Saskatchewan	28.7	25
Alberta	78.9	107
British Columbia	312.3	461
Total	1,421.6	1,886

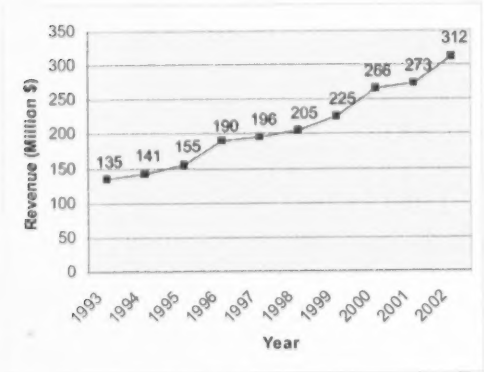
* *Source: Statistics Canada, Catalogue 22-202-XIB*

+ *The size figures include vegetable and floriculture production.*

Floriculture within BC - Economic Contributions

In 2002, Statistics Canada estimated that ornamental flower and plant sales in BC were $312.3 million. Figure 1 looks at the last ten years of floriculture sales in BC. The industry has increased its sales by 59% over the last five years. In the last ten years, it increased by more than 230%. The most significant growth year was in 1996. The years with a small increase in sales reflects the industry concentrating on retrofitting rather than expansion.

Figure 1: BC Floriculture Sales



Data Source: Statistics Canada, Catalogue 22-202

Of the 461 hectares of greenhouses in BC, it's estimated that about 233 hectares were used for floriculture production in 2002. It's estimated that there are about 125 hectares of fields used for the production of flowering bulbs and cut flowers. There were significant increases in greenhouse area in 2000. An additional ten hectares were built and 25 hectares were switched from vegetable production to floriculture production. Close to 90% of the industry is located in the Fraser Valley and southern Vancouver Island. There are between 450 and 550 businesses, most of which are family owned and operated. There is a large variation in the size between greenhouse operations; they range anywhere from 150,000 square meters to a few hundred square meters. The average size is around 6,000 to 10,000 square meters. The industry is moving towards large and highly mechanized greenhouses, but it still has room for smaller growers that produce a specialized product.

Table 4. BC Greenhouse Production Input Costs, 2002*

Input	Number or Cost
Total Number of Employees	8,490
Gross Yearly Payroll ($)	120,699,000
Total Investment ($)	833,452,000
Total Purchases ($)	78,465,000
Total Fuel Costs ($)	49,891,000

** Source: Statistics Canada, Catalogue 22-202 (Figures include vegetable and floriculture production.)*

Table 4 looks at the economic contributions of the greenhouse industry in 2002. The greenhouse vegetable and floriculture industry directly employs close to 8,500 people and has an annual payroll of almost $120.7 million. The capital investment of over $833 million shows the commitment of growers to the industry. The figure includes land, buildings, equipment and machinery at fair market value. In addition to the capital investments, growers purchased close to $78.5 million of production inputs, such as cuttings, seeds, and bulbs. Fuel costs approached $50 million. Growers have experienced extreme fluctuations in fuel costs since 2000 and volatile prices are expected to continue.

Crops

One of the strengths of the BC floriculture industry is its diverse range of crops. Several thousand plant genera are grown as cut flowers or potted plants. The main cropping strategies for potted plant production on a year-around basis are: a combination of bedding plants and potted flowering and foliage plants, bedding plants and poinsettias, or potted foliage and flowering plants. Some smaller growers may grow bedding plants on a seasonal basis and only operate a few months of the year. Table 5 shows the production of some of the main potted plants grown in BC. The largest single crop is geraniums with over six million pots grown in 2002. The figure includes both zonal and seed geraniums.

Table 5. BC Potted Plant Production (000 pots) *

Crop	1998	1999	2000	2001	2002
Azalea	1,215	322	-	702	559
Chrysanthemum	867	800	1,297	1,070	1,556
Foliage plants	3,226	3,390	3,732	3,681	4,671
Geraniums	4,918	6,371	8,207	7,529	7,200
Hanging Baskets – Foliage	141	211	172	346	281
Hanging Baskets – Bedding	463	547	-	741	950
Lilies	444	175	242	242	260
Poinsettias	2,156	1,662	1,801	2,285	3,082
Other	13,138	13,210	12,181	21,432	20550

** Source: Statistics Canada, Catalogue 22-202*

Other important potted crops not shown on the table are:
Flowering potted crops - African violets, potted bulbs, cineraria, cyclamen, exacum, gerbera, gloxinia, hibiscus, hydrangea, kalanchoe, Rieger begonias, gloxinia, mini-rose, and orchids.
Bedding plants - Alyssum, begonia, fuchsia, herbs, impatiens, lobelia, marigold, pansy, petunia, primula, and snapdragons.

Cut flowers include a diverse range of greenhouse and field-grown annuals, perennials, bulbs, ornamental grasses, and woody cut flower crops. Producers grow a combination of these, or specialize in a single crop, either year-around or seasonally. One of the newer areas is perennial production where coolers and/or moving greenhouses are used to extend the natural flowering season of bulbs and perennials. Table 6 looks at the main cut flower crops. Tulips are the main cut flower grown, with over 21 million stems being produced in 2002. Gerbera production has increased significantly in recent years and is now the second major crop. Cut rose production has decreased in response to a strong increase in South American rose imports.

Table 6. BC Cut Flower Production (000 stems) *

Crop	1998	1999	2000	2001	2002
Alstroemeria	5,392	4,097	6,237	11,130	6,569
Chrysanthemum – spray type	1,606	-	112	7,844	-
Daffodil (Narcissus)	4,495	2,830	2,801	2,641	3,087
Freesia	7,893	5,610	5,080	5,149	6,106
Gerbera	-	-	-	7,844	13,018
Iris	3,728	3,437	2,939	2,432	2,463
Lily	3,036	4,293	4,903	6,427	5,382
Rose – Standard	9,267	12,917	12,428	11,559	8,311
Snapdragon (Antirrhinum)	1,555	5,018	1.701	1,316	1,572
Tulip	14,749	11,963	15,745	17,102	21,217
Other	5,537	7,159	6,116	14,976	8,281

** Source: Statistics Canada, Catalogue 22-202*

There is a large diversity in cut flower production, which is shown by the large numbers of cuts that fall into the "other" category. Some important crops not shown on the table are:
Greenhouse production – Anemone, lisianthus, matthiola (stocks), orchids.
Field production - Astilbes, dahlias, delphiniums, gladiolus, liatrus, phlox.

Markets
The market has changed significantly over the past 40 years. In the early 1960's, several large wholesalers dominated the market. In response to the almost "monopoly" powers of the wholesalers, a grower owned and operated co-operative, United Flower Growers' Co-operative Association (UFG) was formed in 1963. Over the years, the UFG has gradually become a key part of floriculture production and sales. The importance of corner stores in selling floral product grew along with the UFG. Corner stores developed and capitalized on the spontaneous cash-and-carry market. The next change in the market place was the chain grocery stores selling floral products. Their aim was to make flowers and plants a part of the weekly grocery basket. The most recent change is the role in floral sales by the mass-market retail stores like Wal-Mart and Home Depot. These changes in the floral market have resulted in a significant shift in the market share away from more traditional florists.

Table 7. Ornamental Flower and Plant Sales in BC, 2002*

	Sales ($ 000)	Percent of Total
Retail Florists	33,928	11%
Domestic Wholesalers	76,561	25%
Mass Market Chain Stores	80,011	26%
Other Greenhouses	17,914	6%
Exported	25,462	8%
Direct to Public	27,205	9%
Other Channels	51,212	16%
Total Sales	312,293	

** Source: Statistics Canada, Catalogue 22-202*

Table 7 shows the breakdown of sales in 2002. Wholesalers' long-time position as the main BC floral marketplace has recently been surpassed by mass market chain stores, including grocery stores and mass market retailers. Sales through the UFG are captured within other channels and accounted for approximately 20% of the product sold in the province. Traditional florists hold 11% of the market. Grocery stores and corner stores account for a large proportion of impulse purchases, while florists continue to dominate the more traditional markets like weddings and funerals. Exports vary with fluctuations in the Canadian dollar. Most exports go to the northwest region of United States.

United Flower Growers' Co-operative Association
The United Flower Growers, or the Auction, plays a significant role in the marketing of BC floral products. It was the first auction established outside of Europe. The next closest auctions are located in Toronto and San Diego. In 2002, it had sales of $55.5 million or about 18% of the market. The UFG has never had a drop in sales since its first year of operation when it had sales of $75,000.

An elected Board of Directors runs the UFG. Currently, it has almost 200 grower members and close to 1,000 customers. It operates out of a 1.8-hectare facility in south Burnaby. Growers pay a sales commission to sell their product through the auction, but they have reduced marketing and promotional costs. A major benefit of selling through the auction is that the UFG pays growers twice a month directly into growers' bank accounts. It eliminates the necessity for growers to grant extended credit to customers and, more importantly, it reduces the risk of bad debts.

Auction sales are done via three electronic, reverse style Dutch clocks. Prices start above the expected selling price and fall as the clock runs until the first buyer using an electronic keypad stops the clock. Unlike traditional auctions, it is the first bidder who gets the product. It is a fast, efficient selling method, with several thousand sales transactions per hour. Prices vary daily depending upon supply and demand. Selling product is a daily gamble since there aren't any guaranteed prices.

For more information on the UFG, log onto their web site at:
http://www.ufgca.com

Mass-Market Chains

The three main groups of mass-marketers are supermarkets, department stores, and home renovation stores. These large chains attract thousands of customers every day and they have large floral departments. They capture a sizeable proportion of the holiday flowering plant and bedding plant markets. While these stores expose more people to floral materials, the downside is that they often use floral product, especially bedding plants, as loss leaders.

Supermarkets and corner grocery stores compete for market share once held exclusively by florists. Most grocery stores have a floral department prominently displayed within the store where they encourage consumers to make flowers a part of their weekly grocery purchases.

Mass-merchandise stores such as Wal-Mart and Home Depot are quickly gaining market share. The large stores deal in large product volumes, so they usually purchase product from larger growers. In addition, they often require growers' product to have the appropriate universal product codes (UPC). The large volumes and the UPC requirements mean that smaller growers are often not able to fill orders. Another factor is that these large mass-merchandisers operate on forward contact prices with their suppliers. They are not set-up to operate on the spot market such as the UFG. The UFG has responded to this change in the marketplace by creating a Direct Sales Desk that brokers forward contracts between its growers and customers.

Retail Greenhouse Sales
Many cut flower and smaller growers choose to sell the majority of their product through the UFG. It eliminates the need for individual marketing and promotion and allows growers to concentrate on growing a high quality product. However, most large growers and bedding plant growers treat the UFG as a customer, and although they a large proportion of their production to the UFG, they also sell directly to wholesalers, florists, mass-merchandisers, and garden centers. Another option is to sell directly to the public via farm stands or on-farm nurseries. Smaller bedding plant growers often sell direct to the public. It allows these growers to eliminate the middlemen and capture retail prices; however, it involves the extra expense of staffing and running the retail operation. Location plays an important role in the success of on-farm merchandising.

Industry Dynamics

Advantages

Expertise
By having the UFG doing most of the marketing, growers are able to concentrate on growing. Most growers have strong ties to Europe and keep in close touch with research information and production techniques and for variety updates. The high degree of expertise that is needed presents a challenge to new growers, whom not only need a large amount of capital, but also need the skills and knowledge of operating a greenhouse and growing the crops.

Modern facilities
Lower light levels and high input costs make it essential for growers to have the most up-to-date greenhouses to remain competitive. Growers who don't build or retrofit every ten years lose their competitive edge.

Pacific Rim Trade
BC's close proximity to and the many direct flights to several Asian countries should make them our natural trading partners. In reality, they are difficult markets to penetrate due to volume and quality demands.

Co-operation
Growers frequently meet at the UFG to discuss prices, problems and new crops. Most growers realize that the higher the over-all standards of the industry, the better it is for everyone.

Specialization
By bringing many buyers and growers together at the UFG, growers are able to specialize rather than growing a wide range of crops in an attempt to supply the needs of every customer in the local market. Specialization allows for improved quality and decreased costs of production.

Weather
The Fraser Valley has some of the mildest weather in Canada, allowing lower heating costs and an earlier start to the bedding plant and outdoor cut flower seasons.

Disadvantages

Fewer pest controls
The United States and Europe have several new effective pesticides that are not registered in Canada. Canada is a small market and floriculture crops are often high-value. Consequently, large pesticide companies are hesitant to spend the extra time and money needed for Canadian registration. Often these new pesticides are less harmful to the environment and to other biological controls. The decreasing effectiveness and reduced number of registered pesticides places more emphasis on integrated pest management (IPM) practices.

High costs
Most input costs are rising steadily each year, while floricultural product prices remain the same or decline. Capital costs can run anywhere from $80 to $400 per square metre. Gas and electricity accounts for between one fifth and one tenth of gross sales, however, erratic natural gas prices have seen this ratio fluctuate dramatically during recent years. Labour can also be one third of gross sales. BC land costs are some of the highest in Canada; land can cost up to $40,000 per hectare.

Skilled labour shortage
The industry has a shortage of middle management, but it is hoped that educational programs such as the Kwantlen University College's Horticulture program will help to alleviate the shortage. Growers also look to the Netherlands for trained managers.

Lack of local research
Research has traditionally focused on food crops rather than ornamentals. The UFG research fund and the Cecil Delworth Foundation, the research arm of Flowers Canada, are in place to stimulate local research.

Weather
Low light levels during the winter require that high quality crops need supplemental lighting.

ISSUES/CONCERNS

Environment
Environmental concerns are becoming a major issue for growers. Some of the main areas of concern in production are the re-use of irrigation water, reduced pesticide and fertilizer use, and reduced greenhouse run-off.

Decreasing margins
Most input costs have risen steadily over the past five years and product prices have not kept up. To remain profitable growers have had to become more efficient in production and management. Growers are forced to adopt changes in technology and new plant varieties or risk falling behind, becoming less efficient and eventually being forced out of the market.

Pest control
Concerns over pesticide use by the public and growers alike, along with pressures from pests, loss of approved pesticides, the high cost of pesticides, and pest resistance have caused growers to be increasingly receptive to alternative pest control methods. Integrated pest management (IPM) is playing a larger role in greenhouse pest control. Many growers are now using biological or bio-rational control methods to supplement or replace existing pesticides.

Labour
Labour is an important element in production. Bedding plant and cut flower growers face labour costs of up to one third of gross sales. Unionization is a reality. Growers look to increased mechanization as a solution to their high labour requirements.

Rural-urban conflicts
Rural-urban conflicts are a fact of life for most of agriculture in the Province. Some municipalities look upon floriculture as more of a factory production industry than agriculture. Growers need to take steps to reduce complaints over lights, noise, greenhouse run-off, pesticide use, and greenhouse appearances to avoid complaints from neighbors.

Regulations
Most municipalities have regulations concerning zoning, noise, lighting and the maximum coverage and set-back limits for greenhouses. There are also numerous environmental and safety requirements at provincial and federal levels that apply to the greenhouse industry in British Columbia.

Capital costs
Top of the line greenhouse operations can cost in excess of $350 per square meter. This presents a barrier to entry for many potential growers. Field cut flowers and bedding plant production have much lower capital costs, so they are often entry level crops.

TO THE FUTURE

The future of the BC floriculture industry continues to be optimistic. The "green industries" of floriculture and nursery are the fastest growing sectors of horticulture. Gardening is the number one leisure activity in North America and it has helped to expand bedding plant sales. The demand for floricultural products continues to rise as people realize the importance of plants and flowers in their daily lives. Similar to other sectors of agriculture, there is a trend towards big, highly mechanized operations. The number of medium sized growers is expected to decline, as large growers become bigger in a move towards providing a more complete range of products for sale to large chain stores or other markets; at the same time, the numbers of smaller growers producing a more specialized product will likely increase.